

CARBON NEUTRAL ACTION REPORT

MAY 2020



This Carbon Neutral Action Report for the period January 1, 2019 to December 31, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2020 and beyond. By June 30, 2020 Selkirk College's final Carbon Neutral Action Report will be posted to our website at selkirk.ca

OVERVIEW

ACTIONS TAKEN IN 2019

In the spring of 2019, Selkirk College released a new strategic plan, providing a roadmap forward for the next 5 years. Environmental Sustainability is included within this plan as a fundamental commitment, alongside Diversity and Inclusion, Health and Wellness, Innovation, and Reconciliation. Selkirk will continue to integrate respect for the land and natural environment, sustainable practices, carbon footprint reduction and responsible use of natural resources into student learning, services, operations, and workforce development. The College is committed to implementing practices that promote a healthy natural environment and climate change mitigation in teaching practices, administration, programming, facilities and operations, funding allocations and applied research priorities. Selkirk is committed to developing and supporting college-wide and regional solutions to environmental remediation, cleaner transportation, lowered emissions and waste reduction.

In October 2019, the roof of Selkirk College's main building on Castlegar campus was transformed, with 275 solar panels installed over a two-week period. This installation has a capacity to produce an estimated 112 000 kilowatt-hours of electricity per year, which will account for approximately 10 percent of the annual electricity demand for Castlegar campus. An online dashboard showing live energy production from this system is now available and accessible to the campus community.

Lighting upgrades within the Castlegar campus library were completed in 2019. The changes made aim to improve energy efficiencies and reduce consumption while providing consistent lighting levels when and where required.



Figure 1. Maintenance staff on the library roof that now houses 275 solar panels.

Figure 2. Students and staff took the BC Cool Campus pledge to adjust their energy use habits.



Many modern technologies were utilized, including wireless occupancy, dimming, and daylight harvesting controls. It is anticipated that consumption in this space will be less than 25% of what it was prior to the project.

In the winter of 2019, Selkirk claimed the title of The Coolest Campus in British Columbia during the BC Cool Campus Challenge, a province-wide energy conservation initiative. The Challenge encouraged individuals of participating campus communities to take an energy conservation pledge, committing them to adopt more sustainable energy-use habits, and challenged post-secondary institutions to reduce natural gas use. Selkirk collected the most pledges from students and staff as a percentage of its overall FTE figures,

and was deemed the 2019 winner. At our Castlegar campus, we lowered our natural gas usage during January and February by 239 gigajoules when compared to 2018 (data normalized with respect to weather). Just over 200 energy conservation pledges were taken, amounting to nearly 7.5% of our total full-time equivalent student-staff population.

Throughout 2019, Selkirk continued to utilize Prism Engineering's online utility software, PUMA (Prism Utility Monitoring and Analysis). This data is now displayed on a dedicated energy monitor display installed in the common area of Castlegar campus. Selkirk continues to develop new ways to share its energy conservation progress with the campus community.

SUCCESS STORIES

OVERALL INITIATIVES WHICH TIE IN WITH GHG EMISSION REDUCTIONS

Silver STARS Rating

For the second time, Selkirk College earned a silver STARS rating from the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS (Sustainability Tracking, Assessment and Rating System) measures and encourages sustainability in all aspects of higher education from academics to operations to engagement and innovation. Selkirk College is proud to have received this silver rating again this year, and will be using the results of the report when planning next steps towards a more sustainable future.

Waste Reduction and Diversion

During 2019 new recycling stations were installed on all remaining Selkirk campuses. Recycling programs are now streamlined college-wide. Efforts to reduce contamination with recycling streams continue, while simultaneously striving to eliminate sources of non-recyclable or challenging to recycle items.

The compost program at Castlegar campus continued, diverting approximately 2500 kilograms of organic waste from the landfill. The program employed two part-time work study students and the material will be used in garden beds on campus.



Figure 3. Members of the Sustainability Committee and Environment Club.



Figure 4. Environment Club students conduct our annual waste audit.

Paper Use

Selkirk developed Paper Usage Procedures which are now appended to the College's Environmental Sustainability Policy. Associated environmental impacts of paper include deforestation, carbon emissions, water pollution and land filling. There is opportunity to reduce Selkirk's environmental footprint by addressing paper sourcing, paper use, and paper recycling efforts. The Procedures outline how the College will use paper resources efficiently, source and purchase more sustainable products, and reuse and recycle responsibly. In the fall of 2019, Selkirk streamlined charges for printing and increased communications regarding monthly paper use via an internal website and desktop widget.

Student Involvement

Selkirk's student-based Environmental Club continued to be active both on and off campus. These students contributed to existing sustainability initiatives on campus, hosted events for students and staff, and volunteered with the community.

PLANS TO CONTINUE REDUCING EMISSIONS IN 2020 AND BEYOND

Selkirk College will continue to work towards carbon neutrality throughout 2020.

Projects will include:

- Installation of a ground mounted solar array connected to the Mir Centre at the Castlegar Campus
- Replacement of uninsulated overhead doors (5) in the North Trades Building at the Silver King Campus with energy efficient doors
- Switches to paper sources with higher recycled component
- Energy conservation campaign directed at staff during heating season
- Efforts to incorporate lessons of sustainability into Selkirk College courses



Figure 5. Student Sustainability Ambassadors provide outreach to students and staff

EMISSIONS AND OFFSETS SUMMARY:

Selkirk College GHG Emissions and Offsets for 2019 (tCO₂e)


As per the Directive issued March 31, 2020, each PSO will use their 2018 GHG Emissions as a placeholder for the purposes of their 2019 CNAR.

Total Emissions (tCO ₂ e)	1,162
Total BioCO ₂	1.38
Total Offsets (tCO ₂ e)	1,161
Offset Investment (\$25 per tCO ₂ e)	\$29,025

RETIREMENT OF OFFSETS

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, Selkirk College (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2019 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

EXECUTIVE SIGN-OFF



SIGNATURE

May 19, 2020

DATE

Kerry Clarke

NAME (PLEASE PRINT)

Vice President, College Services, CFO

TITLE

Confirmation number: 00BFD9FC

Submitted date: 2020-06-15 11:02:45 Pacific Daylight Time

Carbon Neutral Action Report Survey - 2019

Public sector organizations (PSOs) are required to complete this survey, in addition to a Carbon Neutral Action Report (CNAR) as mandated by BC's [Climate Change Accountability Act](#) and the [Carbon Neutral Government Regulation](#).

Due to the COVID-19 pandemic, the following [Directive](#) was issued on March 31, 2020. Certain deadlines were also extended for the 2019 reporting year (see below).

March 31, 2020 Directive:

Under my authority as the Director for the purposes of the Act, and under the authority delegated to me in Section 6 of the Carbon Neutral Government Regulation, I hereby direct that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act.

Neil Dobson, Executive Director, Clean BC Implementation
Climate Action Secretariat

Although 2018 emissions data will be used as a placeholder for 2019, **all other (qualitative) components of the CNAR and CNAR Survey are to be completed with information from 2019 (e.g., actions taken or planned to reduce emissions)**. The only change to the survey is that the deadline was extended by one month to June 30, 2020.

This survey is divided into two parts:

Part 1 - Will be made public on the Climate Action Secretariat (CAS) [website](#) after June 30, 2020; however, it will not be appended directly to each individual PSO CNAR as was done in previous years. This section collects details about actions taken or planned to reduce emissions and is intended to supplement the legislative requirements in your CNAR.

Part 2 - Will NOT be made public. Information you provide in this section is important and will be used internally to help CAS staff with planning for emissions reduction and climate change adaptation initiatives. Although not required, PSOs are highly encouraged to complete Part 2.

Note: Survey progress can be saved at any time by clicking the "Save and continue later" button at the bottom of each page. A new window will open and you will be asked to provide your name and email. An email will be sent to you from Carbon.Neutral@gov.bc.ca with the subject line: "Questionnaire Link", which will include a hyperlink for the "Project: Carbon Neutral Action Report Survey – Broader Public Sector 2019". You can then continue responding at another time or email the hyperlink to a colleague to complete remaining section(s).

May 29, 2020	<ul style="list-style-type: none">The final, signed version of the CNAR (or Small Emitters Form) must be submitted by email to: Carbon.Neutral@gov.bc.ca
June 30, 2020*	<ul style="list-style-type: none">Ministry of Environment and Climate Change Strategy must post a final CNAR for each organization on the BC Government's CNG website and each PSO is encouraged to post the report on their website.The CNAR Survey (optional for Small Emitters) must be completed and submitted online. <p>*Deadline extended from May 29, 2020.</p> <ul style="list-style-type: none"><u>All offset invoice payments must be submitted to CAS.</u>
Sept 30, 2020*	<ul style="list-style-type: none">Clean Government Reporting Tool (CGRT) Data Entry must be completed for the 2019 reporting year.

	*Deadline extended from April 30, 2020.
Oct 15, 2020*	<ul style="list-style-type: none"> • Self-Certification checklist must be completed, signed and submitted by email to: Carbon.Neutral@gov.bc.ca. *Deadline extended from May 15, 2020.

*See the [Carbon Neutral Government – Program Requirements website](#) for more information on program requirements, timelines and templates.

PART 1 - Included as part of your public CNAR report.

Reminder that Part 1 will be made public on the CAS [website](#).

Contact Name:
<i>Laura Nessman</i>
Contact Email:
<i>lnessman@selkirk.ca</i>
Organization Name:
<i>Selkirk College</i>
Role – Please select the best category for your current role with your organization. If more than one individual completed the survey, multiple categories may be selected:
<i>Sustainability Coordinator</i>
Please select your sector:
<i>Post Secondary (PS)</i>

Stationary Sources (e.g. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Actions taken by your organization in 2019 to support emissions reductions from buildings

Do you have a strategy to reduce emissions from stationary sources?
<i>Yes</i>

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from stationary sources:

Over the medium-term term (1-5 years)
<ul style="list-style-type: none"> - Assessment of next technologies to implement at our Castlegar campus to further reduce GHG - Installation of a ground mounted solar array connected to the Mir Centre on Castlegar Campus - Installation of a biomass boiler at our Silver King Trades campus
Over the long term (6-10 years)
<ul style="list-style-type: none"> - Fuel switching initiatives at Castlegar and Tenth Street campuses
Please describe your strategy's goals (if any) related to energy audits.
<i>Perform energy audits of each campus every 5 years, or as needed depending on major upgrades.</i>

What % on average of your building portfolio has an energy audit completed each year (if any)?

15%

Please describe your strategy's goals (if any) related to building retrofits.

New building construction will include provisions to make buildings net zero energy ready.

Minor retrofits (e.g. low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.)

10%

Major retrofits (e.g. replacing windows and doors, equipment replacement such as boilers, etc.)

5%

Deep retrofits (e.g. replacing roof, replacing the heating, ventilation and air-conditioning system with a renewable technology like a ground-source heat pump, etc.)

1%

Please describe your strategy's re/retro-commissioning goals (if any)?

Recommission studies every 5 years or less, depending on building changes.

What % on average of your building portfolio do you recommission each year?

5%

Do you keep records of Refrigerant gases¹ category and refilling volumes?

[1] Fugitive emissions from stationary cooling equipment are attributed to the leakage and loss of HFC and PFC based coolants from air conditioning and commercial type refrigeration systems. Coolant loss can occur during the manufacturing, operation, and disposal of such equipment. Gases that may be reported via CGRT include HFC R-134, HFC R-134a, HFC R-404a, HFC R-407c, HFC R-410a.

No

What, if any, mitigation approaches have been considered? Please describe.

n/a

How many newly constructed buildings received at least LEED Gold certification in 2019?

0

How many newly constructed buildings did not receive LEED Gold certification?

1

Please explain why LEED Gold certification was not obtained for those new buildings.

The Silver King Commons building was built to LEED Gold, however, certification was not pursued.

Mobile Sources (Fleet Vehicles, Off-road/portable Equipment): Fuel Combustion:

Actions taken by your organization in 2019 to support emissions reductions from mobile sources?

Do you have a strategy to reduce emissions from mobile sources?

No

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from mobile sources:

Over the medium-term term (1-5 years)

- Encourage employees to use video conferencing whenever feasible
- Continue to promote regional rideshare and carpool programs
- Continue to consider electric options when purchasing new fleet vehicles

Over the long term (6-10 years)

- Convert maintenance and School of Environment and Geomatics fleet to electric vehicles

How many fleet vehicles did you purchase from the following categories:

Electric Vehicle – EV - (e.g., Nissan Leaf, Chevy Bolt)

0

“Plug In” Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicle – HEV – non “Plug In”- (e.g., Toyota Highlander Hybrid)

0

Hydrogen fuel cell vehicle

0

Natural gas/propane

0

Gas/diesel vehicle

5

If you purchased new gas/diesel vehicles, can you briefly explain why vehicles from the other categories were not chosen?

Class of vehicle purchased not available in hybrid or electric models

Actions taken by your organization in 2019 to support emissions reductions from mobile sources? (Continued)

How many existing EV charging stations does your organization have in each category:

Level 2?

1

Level 3?

0

How many level 2 stations (if any) are specifically for your fleet vehicles?

As defined as Level 2 stations only your organization's fleet vehicles may use

1

How many level 3 stations (if any) are specifically for your fleet vehicles?

As defined as Level 3 stations only your organization's fleet vehicles may use

0

How many EV charging station(s) did you install in 2019 in each category:

Level 2?

0

Level 3?

0

How many level 2 stations (if any) were installed specifically for your fleet vehicles?

As defined in the previous section

0

How many level 3 stations (if any) were installed specifically for your fleet vehicles?

As defined in the previous section

0

Please indicate the total number of the vehicles in the following vehicle classes that are in your current fleet

Definitions:

- Light duty vehicles (LDVs) are designated primarily for transport of passengers <13 and GVWR<3900kg
- Light duty trucks (LDTs) are designated primarily for transport of light-weight cargo or that are equipped with special features such as four-wheel drive for off-road operation (include SUVs, vans, trucks with a GVWR<3,900kg)
- Heavy duty vehicles (HDV) includes vehicles with a GVWR>3,900 kg (e.g. ¾ tonne pick-up truck, transport trucks)

Light duty vehicles (LDVs)

Electric Vehicles – EV - (e.g., Nissan Leaf, Chevy Bolt)

1

“Plug In” Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Toyota Prius, Toyota Camry hybrid)

0

Hydrogen fuel cell vehicles

0

Natural gas/propane
0

Gas/diesel
0

Light duty trucks (LDTs)

Electric Vehicles – EV
0

“Plug In” Electric Vehicle – PHEV
0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid, etc)
0

Hydrogen fuel cell vehicles
0

Natural Gas/propane
0

Gas/diesel
15

Heavy duty vehicles (HDV)

Electric Vehicles – EV
0

“Plug In” Electric Vehicle – PHEV
0

Hybrid vehicles – HEV – (e.g., non “Plug In”)
0

Hydrogen fuel cell vehicles
0

Natural Gas/propane
0

Gas/diesel
0

Actions taken by your organization in 2019 to support emissions reductions from paper supplies.

Briefly describe your organization's plans to continue reducing emissions from paper use:

Over the medium-term (1-5 years)

- Continue to track and communicate College-wide paper use and emissions impacts
- Continue to increase recycled paper content (additional sizes and colors)
- Continue to decrease printed materials and switch to online processes and digital documents
- Continue to seek and test alternative source paper

Over the long term (6-10 years)

- Continue to decrease printed materials and switch to online processes and digital documents
- Continue to switch to alternative source paper

Do you have an awareness campaign focused on reducing office paper use?

Yes

Purchased alternate source paper (bamboo, hemp, wheat, etc.)

Yes

Other 2019 actions, please specify

- developed Paper Use Procedures, now appended to Environmental Policy
- streamlined printing charges for students across all campuses
- provided monthly updates on paper use and related environmental impacts
- deployed desktop widget for staff to monitor paper consumption